

REMARKS

In the Office Action dated December 21, 2005, claims 23, 27-31, and 34-42 were presented for examination. Claims 23 and 37-40 were rejected under 35 U.S.C. §112, first paragraph. Claims 23, 35, and 37-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Smith* in view of *Jenkins*, claims 23, 35, and 37-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Lotz et al.* in view of *Jenkins*, claim 23 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Babcock* in view of *Jenkins*, claims 23, 27-30, 34, 35, and 37-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Smith* or *Lotz et al.* in view of *Jenkins* and further in view of *Pearl II et al.*, and claim 31 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Hughey* in view of either *Smith* or *Lotz et al.* and further in view of *Jenkins* and *Pearl II et al.*

With this amendment, claims 23, 27-31, 34-38, and 40-42 are currently pending. Claims 1-22, 24-26, and 32-33 were previously canceled. Claims 35 and 39 are canceled without prejudice or disclaimer. Applicant reserves the right to re-present any of the previously or currently canceled claims at a later date.

The following remarks are provided in support of the pending claims and responsive to the Office Action of December 21, 2005 for the pending application.

I. Rejection of claims 23 and 37-40 under 35 U.S.C. §112, first paragraph

In the Office Action dated December 21, 2005, the Examiner rejected claims 23 and 37-40 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. More specifically, the Examiner raised an issue with the lower limit of the pressure of the combustible gas. Applicant has amended claims 23 and 40 where the pressure range for the combustible gas is claimed and has cancelled claim 39. Accordingly, Applicant respectfully requests that the Examiner remove this rejection under 35 U.S.C. §112, first paragraph.

II. Rejection of Claims 23, 35, and 37-39 under 35 U.S.C. §103(a) as being unpatentable over *Smith* in view of *Jenkins*

In the Office Action of December 21, 2005, the Examiner rejected claims 23, 35, and 37-39 under 35 U.S.C. §103(a) as unpatentable over *Smith*, U.S. Patent No. 2,205,499, in view of *Jenkins*, U.S. Patent No. 2,363,250.

Applicant hereby incorporates the comments to *Smith* '499 and *Jenkins* '250 provided in response to the prior Office Actions.

U.S. Patent No. 2,363,250 to *Jenkins* pertains to a torch tip for cutting and welding. The torch tip of *Jenkins* is configured to receive a supply of oxygen and a combustible gas, wherein the combustible gas is in the form of hydrogen or acetylene. See *Jenkins*, page 2, column 1, lines 29-32. However, there is no teaching in *Jenkins* relating to the pressure at which the combustible gas is delivered to the cutting torch. Similarly, there is no teaching in *Smith* relating to the pressure at which a combustible gas may be delivered to the blow pipe. The Examiner alleges that *Smith* teaches a "combustible gas at any desired pressure (see page 2, lines 70-74) for example" Fourth Office Action page 3, line 2. However, after reviewing *Smith* in detail, it is clear that there is no such language present to support "any desired pressure" as alleged by the Examiner. And, even if there were such language, the combustible gas taught by *Smith* is acetylene, which becomes unstable at pressures greater than 15 psi. Applicant's amended claims 23 maintains that the combustible gas is delivered to the two part tip cutting torch under a minimum pressure of 35 psi and a maximum pressure of 80 psi. Neither *Smith* nor *Jenkins* teach the pressure for delivering a combustible gas to the two part tip cutting torch in the pressure range of 35 to 80 psi, as claimed by Applicant. It is known in the art that acetylene becomes unstable at pressures above 15 psi. See Exhibit A submitted in response to the Third Office Action. Therefore, it is clear based on the chemical properties of acetylene, which is the combustible gas taught in both *Smith* and *Jenkins*, that there is no teaching, suggestion, or motivation in either *Smith* or *Jenkins* to receive a combustible gas at the pressures claimed by

Applicant. "If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP §2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 2d. 1125 (Fed. Cir. 1984)). Neither *Smith* or *Jenkins* teaches or suggests an ability to deliver a combustible gas to the two part tip cutting torch at a minimum pressure of 35 psi to a maximum of 80 psi, as claimed by Applicant. To read *Smith* or *Jenkins* as providing or supporting delivery of combustible gas as claimed by Applicant would require a modification to the invention of either *Smith* or *Jenkins* not envisioned or practical since acetylene becomes unstable at 15 psi and greater, as shown in Exhibit A. The only suggestion for delivery of a combustible gas in the range of 35 to 80 psi to a two part tip cutting torch is derived from Applicant's invention. Absent Applicant's invention, there is no suggestion or motivation for such a modification. Accordingly,, Applicant hereby requests removal of the rejection and allowance of amended claim 23, and claims 37 and 38.

III. Rejection of Claims 23, 35, and 37-39 under 35 U.S.C. §103(a) as being unpatentable over Lotz et al. in view of Jenkins

In the Office Action of August 2, 2005, the Examiner rejected claims 23, 35 and 37-39 under U.S.C. §103(a) as unpatentable over *Lotz et al.*, U.S. Patent No. 5,902,544, in view of *Jenkins*, U.S. Patent No. 2,363,250. Applicant has amended claim 23 to remove the rejection under 35 U.S.C. §112, first paragraph, and canceled claims 35 and 39.

Applicant hereby incorporates the comments to *Lotz et al.* '544 and *Jenkins* '250 provided in response to the prior Office Actions, and the comments to *Jenkins* '250 provided above.

There is no teaching in *Lotz et al.* '544 relating to the pressure at which a combustible gas is delivered to the cutting torch and/or blow pipe. Applicant's amended claim 23 maintains that a combustible gas is delivered to the cutting torch under a pressure ranging from 35 to 80 psi.

Neither *Lotz et al.* nor *Jenkins* teach the pressure for delivering the gas to the cutting torch at the pressure range as claimed by Applicant. It is known in the art that acetylene becomes unstable at pressures above 15 psi. See Exhibit A. Applicant claimed a range of at least 35 psi to about 80 psi for delivery of a combustible gas to the cutting torch in into amended claim 23. It is clear that based on the chemical properties of acetylene, the combustible gas taught in both *Lotz et al.* and *Jenkins*, it cannot be delivered at the pressures as claimed by Applicant. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure." MPEP §2143 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ 2d. 1438 (Fed. Cir. 1991)). Neither *Lotz et al.* nor *Jenkins* teaches or suggests an ability to deliver a combustible gas to the two part tip cutting torch at a pressure ranging from a minimum of 35 psi to a maximum of 80 psi, as claimed by Applicant. To read *Lotz et al.* or *Jenkins* as providing or supporting delivery of combustible gas in the form of acetylene in the range as claimed by Applicant would require a modification to the invention of either *Lotz et al.* or *Jenkins* not envisioned since acetylene becomes unstable at 15 psi and greater, as shown in Exhibit A.

"If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP §2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). The only suggestion for delivery of a combustible gas in the range of about 35 psi to about 80 psi to a two part tip cutting torch is derived from Applicant's invention. Absent Applicant's invention, there is no suggestion or motivation for such a modification. Furthermore, with respect to claim 38, there is no teaching, suggestion, or motivation in either *Lotz et al.* or *Jenkins* to employ any of the combustible gases claimed by Applicant. "To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." MPEP §2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Accordingly, in view of the above remarks and since the Examiner did not address this limitation in the outstanding Office Action, Applicant hereby requests removal of the rejection and allowance of amended claim 23.

IV. Rejection of Claim 23 under 35 U.S.C. §103(a) as being unpatentable over *Babcock* in view of *Jenkins*

In the Office Action of December 21, 2005, the Examiner rejected claim 23 under 35 U.S.C. §103(a) as unpatentable over *Babcock*, U.S. Patent No. 2,521,199, in view of *Jenkins*, U.S. Patent No. 2,363,250. Applicant has amended claim 23 to include the limitations of claim 35 with a further amendment to the lower pressure limit.

Applicant hereby incorporates the comments to *Jenkins* '250 and *Babcock* '199 provided in responses to prior Office Actions, and the comments to *Jenkins* '250 provided above.

Babcock '199 teaches delivering a combustible gas in the form of acetylene to a blow pipe. Applicant's claim 35 maintains that the combustible gas is delivered to the cutting torch under a pressure ranging from 35 to 80 psi. As noted above, acetylene becomes unstable at pressures that exceed 15 psi. Neither *Babcock* nor *Jenkins* teach the pressure for delivering the combustible gas to the cutting torch at the pressure range as claimed by Applicant. Since acetylene becomes unstable at pressures in excess of 15 psi, there is no teaching, suggestion, or motivation to deliver the combustible gas in *Babcock* at the range as claimed by Applicant, ie. 35 to 80 psi. "If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." MPEP §2143.01 (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)). Acetylene becomes unstable at 15 psi and greater. Furthermore, the Examiner did not address this limitation in the outstanding Office Action. It is clear that based on the chemical properties of acetylene it cannot be delivered at the pressures as claimed, and as such cannot be substituted as an equivalent into Applicant's claimed invention. Accordingly, Applicant hereby requests removal of the rejection and allowance of claim 23.

V. Rejection of Claims 23, 27-30, 34, 35, and 37-42 under 35 U.S.C. §103(a) as being unpatentable over *Smith* or *Lotz et al.* in view of *Jenkins* and further in view of *Pearl II et al.*

In the Office Action of December 21, 2005, the Examiner rejected claims 23, 27-30, 34, 35, and 37-42 under 35 U.S.C. §103(a) as unpatentable over *Smith*, U.S. Patent No. 2,205,499, or *Lotz et al.*, U.S. Patent No. 5,902,544, in view of *Jenkins*, U.S. Patent No. 2,363,250, and further in view of *Pearl II et al.*, U.S. Patent No. 4,661,057.

Applicant hereby incorporates the comments to *Jenkins* '250, *Smith* '499, *Lotz et al.* '544, and *Pearl II et al.* '057 provided in responses to the prior Office Actions, and the comments to *Jenkins* '250 provided above.

The *Pearl, II et al.* patent ('057) discloses a heat transfer apparatus that uses a torch tip. However, *Pearl, II et al.* does not teach or suggest that the tip actually cuts metal, which is the essence of Applicant's invention. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." MPEP §2141.01(a) (citing *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)). Applicant's invention pertains to cutting metal, as noted in the pending claims. The *Pearl, II et al.* patent clearly pertains to a heat exchanger for use with heating metals, not for cutting metals. The act of heating metal and the act of cutting metal are two independent acts that are not necessarily analogous. Use of a heat exchanger is commonly envisioned in the act of soldering, which commonly joins metals. Use of a metal cutting apparatus actually separates metal objects, an act which is the opposite of soldering. Accordingly, it is clear that the *Pearl, II et al.* patent is non-analogous art and should not be combined with prior art pertaining to cutting metal, as claimed by Applicant.

Applicant does acknowledge that *Pearl, II et al.* teaches the grouping of combustible gases as claimed by Applicant, but for a different purpose. *Pearl II et al.* teaches the combustible

gases for heating whereas Applicant teaches these combustible gases for cutting. "When determining the patentability of a claimed invention which combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." *In re Rouffet*, 149 F.3d 1350, 47 USPQ 2d 1453 (Fed. Cir. 1998) citing *In re Beattie*, 974 F.2d 1309, 24 USPQ 2d 1040 (Fed. Cir. 1992). The only prior art reference the Examiner has found that teaches MAPP or chemtane is *Pearl, II et al.*, which is associated with a heat exchanger apparatus. There is no prior art reference of record that teaches the combustible gases as claimed by Applicant for cutting metal. "The Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *Id.* Accordingly, the Examiner has failed to demonstrate how the *Smith* and *Jenkins* patents teach or suggest substitution of the combustible gases of *Pearl, II et al.* for a metal cutting apparatus, as claimed by Applicant.

In fact, both MAPP and chemtane are forms of combustible gases that did not exist at the time of patenting of either *Smith* or *Jenkins*. See Exhibits B and C. As documented, MAPP was first used in commerce in 1961, and chemtane was first used in commerce in 1975. There is no basis for motivation of the substitution of the combustible gases outside Applicant's claimed invention, especially since MAPP and chemtane were not known or otherwise available during the lifetime of the *Smith* and *Jenkins* patents. Accordingly, since chemtane and MAPP were both unknown forms of combustible gas at the time of both *Smith* and *Jenkins*, clearly they could not be envisioned as substitutable for Applicant's invention at the pressures as claimed by Applicant.

"Rejecting patents solely by finding prior art corollaries for the claimed elements would permit an Examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be an 'illogical and inappropriate process by which to determine patentability.'" *In re Rouffet* citing *Sensonics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996). Clearly, this is the process being undertaken by the Examiner. Not one of the

prior art references teaches the pressure ranges as claimed by Applicant. The only reference to teach the different types of combustible gases as claimed by Applicant is for an inverse application than that claimed by Applicant, i.e. heat exchanger versus cutting metal. Accordingly, by combining four prior patents, the Examiner is dissecting the elements of Applicants claims and joining them in a way not previously envisioned. Accordingly, Applicant respectfully requests the Examiner to remove the rejection of claims 23, 27-30, 34, 35, and 37-42.

VI. Rejection of Claim 31 under 35 U.S.C. §103(a) as being unpatentable over Hughey in view of either Smith or Lotz et al. and further in view of Jenkins and Pearl II et al.

In the Office Action of December 21, 2005, the Examiner rejected claim 31 under 35 U.S.C. §103(a) as unpatentable over *Hughey*, U.S. Patent No. 2,515,302, in view of either *Smith* '499, or *Lotz et al.* '544, and further in view of *Jenkins* '250 and *Pearl, II et al.*, U.S. Patent No. 4,661,057.

Applicant hereby incorporates the comments to *Jenkins* '250, *Hughey* '302, *Smith* '499, *Lotz et al.* '544, *Jenkins* '250, and *Pearl II et al.* '057 provided in responses to prior Office Actions and above.

As noted above, the *Pearl, II et al.* patent ('057) discloses a combustion apparatus in the form of a heat exchanger. The patent teaches the use of a combustible gas to enter the torch to provide a hearting flame, wherein the torch has an adapter to mix gases and to distort the exiting cutting oxygen. However, *Pearl, II et al.* does not teach the structure of the two part tip cutting torch, the associated pressures of the delivery gases, nor applying the apparatus to cut metal as claimed by Applicant.

With respect to claim 31 there is no support in *Hughey*, *Smith*, *Lotz et al.*, *Jenkins*, or *Pearl II et al.* to provide a combustible gas at the claimed pressure ranges from the group

selection claimed by Applicant. The invention as noted in Applicant's claims functions on a different principle than that taught in the combination of *Hughey* with either *Smith* or *Lotz et al.*, or *Jenkins* and *Pearl II et al.* Applicant's invention as per claim 31 is for a method for cutting metal. This includes the use of a two part tip cutting torch and/or accommodation for a combustible gas in the form of: propane, chemtane, propylene, MAPP, or natural gas. It is the structure of the two part tip cutting torch that accommodates the selection of LP gases at the pressures indicated in the dependent claims.


For it to be obvious to combine prior art references, the references must teach, suggest, or motivate one with ordinary skill in the art to combine the references and create the claimed invention. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." MPEP §2143.01. The *Hughey* patent does not support the claimed selection of combustible gases at the claimed pressure of Applicant to cut metal. As discussed above, neither of the prior art references teaches or suggests application the combustible gas at the pressures as claimed by Applicant to cut metal. The *Hughey*, *Smith*, *Lotz et al.*, *Jenkins*, and *Pearl II et al.* patents do not individually or in combination teach or suggest the use of a two part cutting tip and/or a combustible gas as claimed by Applicant. Accordingly, Applicants respectfully contend that the combination of *Hughey*, *Smith*, *Lotz et al.*, *Jenkins*, and *Pearl II et al.* does not meet the standard set by the CAFC's interpretation of 35 U.S.C. §103(a), and respectfully requests allowance of claim 31.

Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. Accordingly, Applicant requests that the Examiner indicate allowability of claims 23, 27-31, 34, 36-38, and 40-42, and that the application pass to issue. If the Examiner believes, for any reason, that personal communication will expedite prosecution of the application, the Examiner is hereby invited to telephone the undersigned at the number provided.

For the reasons outlined above, withdrawal of the rejection of record and an allowance of this application are respectfully requested.

Respectfully submitted,

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